

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

100011
22/F, Great Eagle Centre, 23 Harbour Road, Wanchai, HONG KONG, P.R. China
CHINA PATENT AGENT (H.K.) LTD

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43 bis.1)

Date of mailing (day/month/year) 2007 03 02
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Applicant's or agent's file reference FPPEL06150029	FOR FURTHER ACTION see paragraph 2 below
International application No. PCT/CN2006/000939	International filing date (day/month/year) 10 May 2006 (10.05.2006)
Priority date (day/month/year)	
International Patent Classification (IPC) or both national classification and IPC G06F9/50(2007.01)i	
Applicant INTEL CORPORATION ET-AL	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R. China 5 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Date of completion of this opinion 03 Feb. 2007 (03.02.2007)	Authorized officer SUN Zhiling Telephone No. 86-01-62086084
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CN2006/000939

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ on paper
☐ in electronic form
 - c. time of filing/furnishing
☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement:

Novelty (N)	Claims	1-22	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1-22	YES
	Claims	NONE	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims	NONE	NO

2. Citations and explanations

The invention relates to thread scheduling on multiprocessor systems. The following documents cited in this report are considered to be the related prior art.

D1:(CN1517872A), which discloses a method for allocating computer resource in multithreaded computer.

D2:(US6269391B1), which discloses a multiprocessor scheduling kernel.

D3:(COMPUTER ENGINEERING & SCIENCE, Vol 22, No.5, 2000, Luo Yu; Luo Qing" On the Design of Multiprocessor Scheduling"), which discloses several typical parallel computer architectures and processor allocation and scheduling polices.

About the novelty:

D1, D2, D3 don't disclose the features of obtaining information on data sharing behavior among multiple threads and grouping the multiple threads into one group based on the said information on data sharing behavior among multiple threads in claims 1,8, and the features of obtaining information on data sharing behavior among multiple threads and scheduling the said multiple threads to target processors in claims 14,19. As D1, D2 and D3 don't describe the same technical solutions with those in the independent claims 1,8,14,19, the solutions of the independent claims 1,8,14,19 meet the requirements of Article 33 (2) PCT and have the novelty. Therefore the dependent claims 2-7,9-13,15-18,20-22also meet the criteria set out in Article 33 (2) PCT and have the novelty.




About the inventive step:

Those skilled in the art can not obtain the technical solutions defined by claims 1,8,14,19 obviously from the combinations of the above documents, therefore the subject-matters of claims 1,8,14,19 involve inventive steps and meet the criteria of Article 33(3) PCT. And the subject-matters of dependent claims 2-7,9-13,15-18,20-22 also involve inventive steps and meet the criteria of Article 33(3) PCT.

About the industrial applicability:

Claims 1-22 have industrial applicability under Article 33(4) PCT, because the technology schemes claimed can be made or used in the industry.

PCT 国际检索与初步审查程序复核单

申请号 PCT/CN2006/100939	部门 3 部
复核员的意见： 同意。	
复核员签章  3.14	复核日期 07.2.9
主审员的意见与采取的行动： 	
主审员签章  3.12	日期 07.2.9